While You Don't See Color, I See Bias: Identifying Barriers in Access to Graduate Medical Education Training

Geneva B. Tatem[1,2], Jayna Gardner-Gray[3], Bryanne Standifer[4], and Krystal Alexander[1]

[1]Department of Internal Medicine, Division of Pulmonary and Critical Care Medicine, [3]Department of Emergency Medicine, Division of Pulmonary and Critical Care Medicine, and [4]Department of Internal Medicine, Henry Ford Hospital, Detroit, Michigan; and [2]Department of Medicine, Wayne State University School of Medicine, Detroit, Michigan

There is a need to acknowledge and address issues of implicit and explicit bias within medical education. These biases can impact standardized test questions and scores, evaluations of clinical performance, and subsequent letters of recommendation, all of which can affect the selection of diverse candidates advancing through medical training. Biased behavior toward trainees can negatively impact their learning environment and career trajectory. This article outlines key definitions related to bias and discusses the ways in which bias potentially impacts selection and entry into Pulmonary and Critical Care Medicine fellowship training. Finally, we will describe some ways to mitigate bias within the fellowship selection process and training programs.

Keywords:
diversity; inclusion; bias; graduate medical education; fellowship training

"Racism—an organized social system in which the dominant racial group, based on an ideology of inferiority, categorizes and ranks people into social groups called 'races' and uses its power to devalue, disempower, and differentially allocate valued societal resources and opportunities" (1)—is evident in medicine.

As a medical student, one of the authors was told by a mentor that they must "perform so well that race becomes a nonissue." The implication was that as a

(Received in original form September 29, 2020; accepted in final form July 29, 2021)

Correspondence and requests for reprints should be addressed to Geneva Tatem, M.D., Division of Pulmonary and Critical Care Medicine, K17, Henry Ford Hospital, 2799 W Grand Boulevard, Detroit, MI 48202. E-mail: gtatem1@hfhs.org.

ATS Scholar Vol 2, Iss 4, pp 544–555, 2021

DOI: 10.34197/ats-scholar.2020-0134PS

Black student, they would be underestimated at every turn, or, to the contrary, that if their performance exceeded expectations of those who imposed limitations on them, the validity of their performance would be questioned, casting doubt on the merit of their work. This is shockingly similar to what we are currently hearing in conversations about race and how some "don't see color." Not only is that stance demoralizing but it also is dehumanizing and devalues a fundamental aspect of a person's identity. Race is deeply woven into every aspect of American life, and that comment implied that being a Black person pursuing a career in medicine inherently is an issue. It was the first, but certainly not the last, experience of being "othered."

Examining the data for Pulmonary and Critical Care Medicine (PCCM) shows that there are substantial racial and/or ethnic disparities within the trainee pipeline. Groups that are underrepresented in medicine (UIM) are defined by the Association of American Medical Colleges as "racial and ethnic populations that are underrepresented in the medical profession relative to their numbers in the general population" (2). In the last decade, despite a significant increase in the number of fellowship applicants and overall number of fellows in PCCM, there has been a significant decrease in the percentage of UIM PCCM applicants and fellows (10.3% overall) (3), and only 4% of all fellows in PCCM are Black. This is substantially lower than the representation of Latino (18%), Black (13%), Native American (1.2%), and Pacific Islander (0.2%) ethnicities in the general population of the United States. Clearly, the demographics of PCCM training lags far behind the evolving racial and/or ethnic demographics of the United States.

UIM groups have also been shown to be particularly vulnerable to bias in medical education (4). The residency and fellowship programs in which we are empowered to educate our trainees are impacted by the societal structures that underpin racism. To move toward effective change, shedding light on the dark corners of these structural barriers is essential. In this paper, we outline key definitions related to bias, discuss the ways in which bias potentially impacts selection and entry into PCCM fellowship training, and propose some potential methods to mitigate bias within the fellowship selection process and training programs.

DEFINITIONS

Explicit and Implicit Bias

Race-related thoughts and beliefs can be expressed through explicit and/or implicit bias and are informed by racism. Explicit bias refers to the attitudes and beliefs about a person or group that are on a conscious level and are exhibited by intentional behavior. Conversely, implicit bias represents an unconscious and involuntary attitude that influences behavior and cognitive processes toward people of a particular group. It is formed by exposure to cultural and social attitudes and does not necessarily align with declared beliefs. We all possess implicit biases despite our belief that our decisions are objective and impartial. In fact, this concept is well described in medicine, and it has been shown that the implicit race bias of physicians is similar to that of the general population (5). Implicit race bias of physicians influences communication style and clinical decision-making and contributes to disparities in health care (4).

Microaggressions

First described by Dr. Chester Pierce in the 1970s (6), microaggressions are usually subtle, barely detectable, forms of discrimination that often are underrecognized by those other than the recipient. They are typified by condescending language and often shut down communication and further dialogue owing to their derogatory nature. Unfortunately, microaggressions are frequently overheard in the medical education setting. Trainees can experience them from a variety of sources, including peers, faculty, and patients. An example is the author's cited experience of hostile messaging regarding their race. These offenses require prompt responses to address and correct.

Accreditation Council for Graduate Medical Education Call to Action

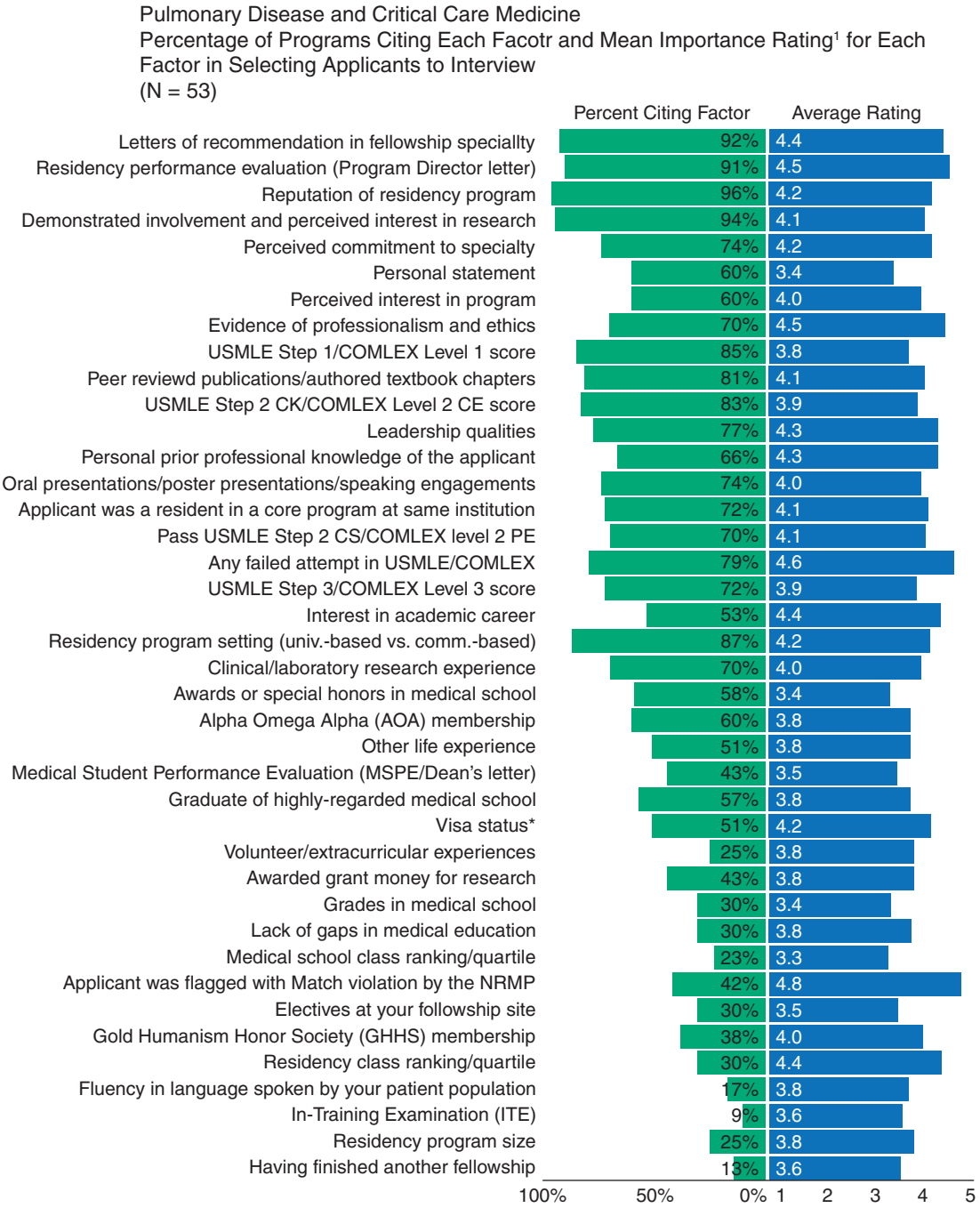
The Accreditation Council for Graduate Medical Education has recently made changes to the core program requirements to begin to address issues of diversity and equity within training programs (7). Not only must programs "engage in practices that focus on . . . systematic recruitment and retention of a diverse and inclusive workforce of residents, fellows, faculty members. . ." but must also be done within the context of the academic institution writ large. Simply reviewing percentages of trainees in comparison to Association of American Medical Colleges benchmarks to merely "check the box" is insufficient. This calls for comprehensive and true commitment to equity in recruitment along the entire medical education continuum. More importantly, this standard requires programs to identify and educate key graduate medical education faculty to spearhead these initiatives.

Taking a closer look at equity in recruitment requires us to examine the ways in which UIM candidates, and particularly Black persons, experience structural discrimination. In the pipeline for PCCM, there is a marked loss in the percentage of Black Internal Medicine (IM) residents applying to PCCM fellowships and subsequently matching (8). Below, we discuss how bias in United States Medical Licensing Exam (USMLE) scores, letters of recommendation (LORs), and undergraduate medical education clerkship narrative evaluations can manifest and impact selection processes and propose potential methods to mitigate that bias.

IDENTIFYING RACIAL BIAS IN MEDICAL EDUCATION SELECTION PROCESSES

USMLE Scores

The National Board of Medical Examiners along with the Federation of State Medical Boards sponsors the USMLE, which is required for licensure of medical doctors in the United States (9). A passing USMLE score is intended only to determine those with adequate knowledge for subsequent licensure. Despite this, specific target scores have been used by almost half of program directors in PCCM (46%) in making determinations on who to interview and who to rank, with Step 1 and Step 2CK (clinical knowledge) having had virtually the same importance in selection for fellowship interviews (Figure 1) (10). In addition, there is evidence of racial bias in USMLE Step scores to grant residency interviews for IM and other specialties (11, 12). Studies have shown that Black students were predicted to perform almost one standard deviation lower than White students, but when correcting for Medical



[1] Ratings on a scale from 1 (not at all important) to 5 (very important).
[2] International Medical Graduates only

Figure 1. National Resident Matching Program director survey data on factors for interview selection. Reproduced by permission from Reference 10.

College Admission Test score, grade point average, and medical school, this difference was reduced to less than one-quarter of a standard deviation (4–5 points) (13). Using a Step cut score as an initial, high-stakes screening metric without context of other performance metrics could potentially eliminate highly qualified Black candidates at the very beginning of the selection process, preventing deeper

application review and subsequent consideration for an interview. This results in shrinking of the applicant pool, with fewer candidates being interviewed, ranked, and ultimately matching, as seen in PCCM fellowship applications and interviews (8).

USMLE scores should instead be used in concert with additional factors such as grade trends, publications, scholarly presentations, awards, and program director letters of performance that are part of a scoring system of academic metrics within the context of the entire application and applied equitably across all applicants. Although we may be biased to think that USMLE scores correlate with clinical performance or rank in training, this has not been demonstrated (14). Instead, USMLE Step performance correlates with performance on subsequent licensing exams (15). In-Training Exam performance informs specialty knowledge and correlates with specialty board exam pass rates (16). Focused study plans based on In-Training Exam performance may be an effective strategy to ensure successful passing of board exams.

Financial Implications

Many Black students have educational debt at the outset of medical school and incur staggering amounts of debt through matriculation. Over 77% report that they expect to graduate at least $150,000 in debt (17). Because of the high-stakes nature of the USMLE Step exams used to determine who is granted interviews and eventually ranked for residency and fellowship, an inordinate amount of time and money has been spent in preparation for the exams, particularly Step 1. The countless blogs, board review books, and preparation courses illustrate the money-making enterprise of board exam preparation, and some students spend more money for board exam preparation than for the examinations themselves (9). Students from lower socioeconomic status, regardless of race, face limited access to many board preparation materials because of the financial strain, which likely has an impact on what scores they achieve.

LORS

Program directors in PCCM report that the two most important factors for selecting candidates for interviews were LORs from those within the specialty and the residency performance evaluation (Program Director letter) (Figure 1) (10). This demonstrates the significant weight LORs carry during applicant review and emphasizes the importance of the language we use when evaluating performance and advocating for candidates. A study of letters for residency applicants showed that traditional letters for non-White applicants had significantly more "grindstone adjectives" highlighting effort and significantly fewer "standout" adjectives highlighting achievement (18). When a standardized letter was used, these differences disappeared, suggesting that structured LORs could help mitigate bias.

The Alliance for Academic Internal Medicine has suggested a standardized letter of recommendation to provide a better representation of an applicant's performance than traditional letters (19). Emergency Medicine developed a standardized letter of evaluation template for residency application LORs, which offers a standardized global perspective on an applicant's candidacy for training (20). Other specialties have adopted a similar process. Although it is unclear how much impact an individual letter may have in the context of hundreds of applications for

fellowship, it may be of substantial impact for those on the margin. Wider adoption of a standardized letter could potentially be an effective bias-reduction strategy, and its use should be studied.

CLINICAL ROTATION EVALUATIONS

Identifying the root causes of grading disparities during the clinical phase of medical school is crucial, as evaluations can have long-term impacts on the career advancement of UIM candidates, including pursuit of fellowship. Only 44% of U.S. medical students believe that clerkship grading is fair. Racial and sex biases have been seen in clinical grades and selection for honor society membership, even when controlling for grades, test scores, and extracurricular activities (21–25). Studies have documented racial and/or ethnic disparities in medical student performance evaluation summary words, with fewer "standout" descriptors for Black students and lower clerkship grades despite equal performance on clinical clerkship final written examinations (26). Students have also expressed concerns regarding the subjectivity of clinical evaluations, which can bias toward those who are "liked" by attendings because of similar backgrounds and interests (27).

Additionally, a qualitative and quantitative analysis demonstrated a statistically significant relationship between medical students' race/ethnicity and receipt of honors across all clerkships. It showed that "Black students were less likely to receive honors as compared with White medical students in all 6 clinical core clerkships" (27). The disparity with clerkship grades, evaluations, and honor society membership amplifies and perpetuates throughout training. Recognizing this barrier and the potential effect it can have on future academic pursuits for UIM candidates is important to mitigate the bias introduced.

PCCM FELLOWSHIP SELECTION PROCESS

The sharp decline in UIM IM residents applying and matching to PCCM fellowships over the past decade suggests that UIM residents are not considering PCCM as a specialty and that those that do match at a disproportionately lower rate (8). Further study is needed to clarify the underlying reasons, which may include factors such as underrepresentation, which may impact where candidates choose to apply, and the use of cut scores as a proxy for "competitiveness" and ranking, which may impact match success. A similar pattern is seen in competitive residency programs such as orthopedic surgery, in which UIM applicants enrolled at a lower rate than White and Asian applicants (12). This is a missed opportunity, as inclusion of diverse trainees with complementary skills brings opportunities to innovate, create, and solve problems more effectively. Additionally, studies have shown that Black patients receiving care from Black physicians agreed to more preventive services than those offered by non-Black physicians (28, 29). These effects seem to be driven by better communication, greater understanding of culture, and more trust. Improving access to graduate medical education training for UIM candidates is one of the many necessary strategies needed to address health disparities and ultimately improve care for all patients. We outline our selection process (Table 1) using a holistic review that considers candidate experiences and attributes in addition to academic metrics and implicit bias mitigation strategies, modeled after the process demonstrated to

Table 1. Creating an inclusive selection process

Preparation for recruitment season	1. Define diversity based on your program's mission 2. Define the characteristics and attributes such as committee, community, or volunteer work; leadership skills; and life experiences that are important to your program as part of holistic review 3. Select diverse reviewers and interviewers 4. Have reviewers and interviewers participate in implicit bias training
Application review	1. Blind reviewers to demographic information (photographs, age, etc.) 2. Use a scoring rubric for academic metrics and predefined characteristics for a holistic review
Interviews	1. Create a structured interview process, providing insight on the candidates' skills and attributes that are aligned with your program's mission 2. Have interviewers score interviews immediately after the candidate is interviewed to minimize recall bias 3. Have selection committee members debrief at the conclusion of each interview day and elaborate on scores with attention to bias

reduce bias in medical school admissions (Table 2) (30, 31).

WAYS TO MITIGATE BIAS AND DISCRIMINATION

Addressing Microaggressions

All of the authors of this article have reflected on their countless experiences of microaggressions they collectively have endured thus far in their careers. Comments from peers such as "you speak so well" or "you're so articulate" have been heard, implying that their use of language is much better than expected. An even more prevalent microaggression is the lack of using honorifics despite the routine nature of using titles in professional and public settings. As trainees, there is often a lack of empowerment to correct patients, family, or faculty when improperly addressed. Studies have shown significant differences between rates of UIM experiencing microaggressions and White persons recognizing them (32). Heightening awareness of actions and attitudes that may be discriminatory through safe, small-group discussion sessions that also provide strategies to respond to the offenses in real time is a way to provide support and create a more inclusionary environment. Being subject to frequent microaggressions can leave trainees feeling disempowered, influence whether they choose to seek further training such as a PCCM fellowship, and, most importantly, lead to an adverse effect on their mental health (33, 34).

Psychological Safety

The training environment must be one that fosters learning, growth, and professional development that leads to trainee success. UIM students have reported less supportive and less positive learning environments and that their training has been negatively impacted based on perceptions of their race (33). UIM trainees can be hesitant to report events of bias, especially when inflicted by

Table 2. Execution of bias mitigation strategies

Program readiness to implement change	1. Establish institutional leadership commitment to change 2. Perform assessment of potential areas of inequity in access to training a. Evaluate recruitment processes and data 3. Budget allocation to support faculty diversity and inclusion activities and mentorship a. Consider crediting this work toward promotion and tenure
Strategic plan that aligns with program mission	1. Develop a program mission statement that focuses on diversity, equity, and inclusion 2. Define metrics to assess progress and implement changes based on data review 3. Develop mentorship and sponsorship program for trainees
Learning environment	1. Needs assessment regarding diversity, equity, and inclusion 2. Perform diversity training a. Administer the implicit association test to trainees and faculty b. Develop training sessions to address implicit bias i. Awareness of and self-reflection on personal bias ii. Recognition of microaggressions with strategies to address iii. Group discussions to raise awareness and counter stereotypes 3. Develop a secure reporting system for microaggressions and other acts of bias a. Framework for investigation and response to bias i. Provide a psychologically safe environment for trainees to be heard and understood 4. Provide speakers from diverse backgrounds to increase representation and potential mentorship opportunities for trainees 5. Develop programs or activities that highlight different backgrounds and cultures to foster culture of inclusivity
Curriculum	1. Establish institutional core curriculum on diversity, equity, and inclusion a. Include health equity, social determinants of health, cultural humility, and community awareness 2. Implement small group discussions for open dialogue

Resources include Association of American Medical Colleges Diversity and Inclusion Toolkit (38), Perdomo and colleagues (32), and the Implicit Association Test (https://implicit.harvard.edu/implicit/index.jsp).

faculty, as they may be fearful of repercussions. The Annual Accreditation Council for Graduate Medical Education Resident Survey question regarding whether the environment is safe for trainees to raise concerns without fear of intimidation or retaliation is an indirect way to assess for psychological safety. UIM students and trainees need a safe space where bias, discrimination, and racism can be reported and addressed. Investigation of offensive events should occur with mutual accountability expected and with resources used for ongoing identification (34). We should demand that "just culture" is not solely for patient safety but also that "speaking up" should be for physician safety and advocacy as well. Providing a safe learning environment would improve the support of all trainees.

Access to Mentors and Sponsors

Without mentors or sponsors, many UIM candidates can face seemingly insurmountable obstacles, and UIM faculty can provide guidance and support. UIM premedical students change majors at higher rates than their peers because of negative experiences in the sciences or discouragement from undergraduate advisors (35). When students question their ability to continue to pursue a medical career, an emotional state of self-doubt is created that can reemerge after enrolling in medical school. This may lead UIM students to withdraw. Discouragement is not isolated to the halls of undergraduate education, and advisors at every stage of education are needed. Encouragement and feedback designed to improve skills and help the trainee ascend to the next level of competence and training are essential.

Greater representation is needed at all levels, as social isolation, lack of support, and tensions between work and personal identity can exacerbate the feeling of being "othered." Although we have made strides in balancing sex inequity, the chasm in racial equity persists. Approximately 41% of all full-time medical school faculty are women, up from 36% in 2007 (36). Only 3.6% of all full-time medical school faculty in the United States are Black, which is not significantly changed from 2007 (37). For our trainees and early career faculty, it can be difficult to aspire to a role or position within the profession if few role models exist. Visibility of diverse trainees, faculty, and patients is important to UIM candidates to enable them to see themselves represented at the program they choose for training. In addition, sponsors who are willing to facilitate opportunities that serve as academic and professional steppingstones are critical for career success. Moreover, UIM faculty often have the additional responsibility of mentoring, developing programs, and participating in community outreach that is done in their discretionary time and is uncompensated financially or with protected time. This is known as the "diversity tax." Administrators must be aware of the additional work being done by these faculty and develop strategies for compensation.

CONCLUSIONS

Increasing self-awareness is pivotal in starting the reconciliation process needed to address biases within medical education. This highlights the importance of mission-driven, equitable recruitment policies that inform the screening, interview, and ranking processes in contrast to "traditional" processes that favor in-group selection. We must recognize that medical education has been structured to individually and systemically favor some over others. Everyone, including those in the position of privilege, must acknowledge these injustices and insist on change. This change begins with the leaders of training programs and must be adopted at the highest institutional and professional society levels. As evidenced through various institutions' experiences, dissemination of meaningful tools via formal curricula and workshops is needed (32, 38). Targeted efforts to change recruitment methods to increase equity and diversity in our training programs are essential in combating the disparities in training of UIM candidates in our specialty and advancing health equity. As academic physicians and guardians of the profession, not only can we do better, we must.

Author disclosures are available with the text of this article at www.atsjournals.org.

REFERENCES

1. Williams DR, Lawrence JA, Davis BA. Racism and health: evidence and needed research. *Annu Rev Public Health* 2019;40:105–125.

2. Association of American Medical Colleges (AAMC). Diversity and inclusion: underrepresented in medicine definition. Washington, DC: AAMC. [accessed 2020 Sep 4]. Available from: https://www.aamc.org/what-we-do/mission-areas/diversity-inclusion/underrepresented-in-medicine.

3. Santhosh L, Babik JM. Trends in racial and ethnic diversity in internal medicine subspecialty fellowships from 2006 to 2018. *JAMA Netw Open* 2020;3:e1920482.

4. Chapman EN, Kaatz A, Carnes M. Physicians and implicit bias: how doctors may unwittingly perpetuate health care disparities. *J Gen Intern Med* 2013;28:1504–1510.

5. Labin, Nosek, Greenwalkd, Rivara. Physicians' implicit and explicit attitudes about race by MD race, ethnicity, and gender. *J Health Care Poor Underserved* 2009;20:895–913.

6. Pierce CM, Carew JV, Pierce-Gonzalez D. An experiment in racism: TV commercials. *Educ Urban Soc* 1977;10:61–87.

7. Accreditation Council for Graduate Medical Education (ACGME). ACGME program requirements for graduate medical education in pulmonary disease and critical care medicine. Chicago, IL: ACGME; 2021 [accessed 2021 Aug 28]. Available from: https://acgme.org/Portals/0/PFAssets/ProgramRequirements/156_PCCM_2021.pdf?ver=2021-06-23-150200-760.

8. Santhosh L, Babik JM. Diversity in the pulmonary and critical care medicine pipeline: trends in gender, race, and ethnicity among applicants and fellows. *ATS Scholar* 2020;1:152–160.

9. Carmody B, Senthil R. On step 1 mania, USMLE score reporting, and financial conflict of interest at the National Board of Medical Examiners. *Acad Med* 2020;95:1332–1337.

10. National Resident Matching Program, Data Release and Research Committee. Results of the 2016 NRMP Program Director Survey Specialties Matching Service. Washington, DC: National Resident Matching Program; 2016 [accessed 2020 Aug 15]. Available from: https://mk0nrmp3oyqui6wqfm.kinstacdn.com/wp-content/uploads/2017/02/2016-PD-Survey-Report-SMS.pdf

11. Edmond MB, Deschenes JL, Eckler M, Wenzel RP. Racial bias in using USMLE step 1 scores to grant internal medicine residency interviews. *Acad Med* 2001;76:1253–1256.

12. Poon S, Nellans K, Rothman A, Crabb RAL, Wendolowski SF, Kiridly D, *et al.* Underrepresented minority applicants are competitive for orthopaedic surgery residency programs, but enter residency at lower rates. *J Am Acad Orthop Surg* 2019;27:e957–e968.

13. Rubright JD, Jodoin M, Barone MA. Examining demographics, prior academic performance, and United States Medical Licensing Examination scores. *Acad Med* 2019;94:364–370.

14. Wagner JG, Schneberk T, Zobrist M, Hern HG, Jordan J, Boysen-Osborn M, *et al.* What predicts performance? A multicenter study examining the association between resident performance, rank list position, and United States Medical Licensing Examination Step 1 scores. *J Emerg Med* 2017;52:332–340.

15. McGaghie WC, Cohen ER, Wayne DB. Are United States Medical Licensing Exam Step 1 and 2 scores valid measures for postgraduate medical residency selection decisions? *Acad Med* 2011;86:48–52.

16. Kempainen RR, Hess BJ, Addrizzo-Harris DJ, Schaad DC, Scott CS, Carlin BW, *et al.* Pulmonary and Critical Care In-Service Training Examination Score as a predictor of board certification examination performance. *Ann Am Thorac Soc* 2016;13:481–488.

17. Dugger RA, El-Sayed AM, Dogra A, Messina C, Bronson R, Galea S. The color of debt: racial disparities in anticipated medical student debt in the United States. *PLoS One* 2013;8:e74693.

18. Powers A, Gerull KM, Rothman R, Klein SA, Wright RW, Dy CJ. Race- and gender-based differences in descriptions of applicants in the letters of recommendation for orthopaedic surgery residency. *JBJS* 2020;5:e20.00023.

19. Alweis R, Collichio F, Milne CK, Dalal B, Williams CM, Sulistio MS, *et al.* Guidelines for a standardized fellowship letter of recommendation. *Am J Med* 2017;130:606–611.

20. Jackson JS, Bond M, Love JN, Hegarty C. Emergency medicine standardized letter of evaluation (SLOE): findings from the new electronic SLOE format. *J Grad Med Educ* 2019;11:182–186.

21. Bullock JL, Lai CJ, Lockspeiser T, O'Sullivan PS, Aronowitz P, Dellmore D, *et al.* In pursuit of honors: a multi-institutional study of students' perceptions of clerkship evaluation and grading. *Acad Med* 2019;94:S48–S56.

22. Low D, Pollack SW, Liao ZC, Maestas R, Kirven LE, Eacker AM, *et al.* Racial/ethnic disparities in clinical grading in medical school. *Teach Learn Med* 2019;31:487–496.

23. Boatright D, Ross D, O'Connor P, Moore E, Nunez-Smith M. Racial disparities in medical student membership in the Alpha Omega Alpha Honor Society. *JAMA Intern Med* 2017;177:659–665.

24. Teherani A, Hauer KE, Fernandez A, King TE Jr, Lucey C. How small differences in assessed clinical performance amplify to large differences in grades and awards: a cascade with serious consequences for students underrepresented in medicine. *Acad Med* 2018;93:1286–1292.

25. Capers Q IV, Clinchot D, McDougle L, Greenwald AG. Implicit racial bias in medical school admissions. *Acad Med* 2017;92:365–369.

26. Ross DA, Boatright D, Nunez-Smith M, Jordan A, Chekroud A, Moore EZ. Differences in words used to describe racial and gender groups in Medical Student Performance Evaluations. *PLoS One* 2017;12:e0181659.

27. Colson ER, Perez M, Blaylock L, Jeffe DB, Lawrence SJ, Wilson SA, *et al.* Washington University School of Medicine in St. Louis case study: a process for understanding and addressing bias in clerkship. *Acad Med* 2020;95:S131–S135.

28. Saha S, Beach MC. Impact of physician race on patient decision-making and ratings of physicians: a randomized experiment using video vignettes. *J Gen Intern Med* 2020;35:1084–1091.

29. Sullivan LW, Suez Mittman I. The state of diversity in the health professions a century after Flexner. *Acad Med* 2010;85:246–253.

30. Capers Q. How clinicians and educators can mitigate implicit bias in patient care and candidate selection in medical education. *ATS Sch* 2020;1:211–217.

31. Gonzaga AMR, Appiah-Pippim J, Onumah CM, Yialamas MA. A framework for inclusive graduate medical education recruitment strategies: meeting the ACGME standard for a diverse and inclusive workforce. *Acad Med* 2020;95:710–716.

32. Perdomo J, Tolliver D, Hsu H, He Y, Nash KA, Donatelli S, *et al.* Health equity rounds: an interdisciplinary case conference to address implicit bias and structural racism for faculty and trainees. *MedEdPORTAL* 2019;15:10858.

33. Dyrbye LN, Thomas MR, Eacker A, Harper W, Massie FS Jr, Power DV, *et al.* Race, ethnicity, and medical student well-being in the United States. *Arch Intern Med* 2007;167:2103–2109.

34. Sue DW, Capodilupo CM, Torino GC, Bucceri JM, Holder AM, Nadal KL, *et al.* Racial microaggressions in everyday life: implications for clinical practice. *Am Psychol* 2007;62:271–286.

35. Barr DA, Gonzalez ME, Wanat SF. The leaky pipeline: factors associated with early decline in interest in premedical studies among underrepresented minority undergraduate students. *Acad Med* 2008;83:503–511.

36. Association of American Medical Colleges (AAMC). 2018–2019. The state of women in academic medicine: exploring pathways to equity. Washington, DC: AAMC [accessed 2020 Aug 15]. Available from: https://www.aamc.org/data-reports/faculty-institutions/report/state-women-academic-medicine.

37. Association of American Medical Colleges (AAMC). Diversity in medicine: facts and figures 2019. Washington, DC: AAMC [accessed 2020 Aug 15]. Available from: https://www.aamc.org/data-reports/workforce/report/diversity-medicine-facts-and-figures-2019.

38. Association of American Medical Colleges (AAMC). Diversity and inclusion toolkit resources. Washington, DC: AAMC [accessed 2020 Aug 15]. Available from: https://www.aamc.org/professional-development/affinity-groups/cfas/diversity-inclusion-toolkit/resources.